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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/295,709 | 04/21/1999 | TONGBI JIANG | 2911.1US | 7506 |

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EXAMINER

GRAYBILL, DAVID E

ART UNIT PAPER NUMBER

2827

DATE MAILED: 07/03/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/295,709

Applicant(s)

JIANG ET AL.

Examiner

David E Graybill

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 April 2002.
- 2a) ☐ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 7,8,15,16,25-31,38-44,46-51 and 57-61 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

- 5) ☒ Claim(s) 7,8,25,30 and 31 is/are allowed.

- 6) ☒ Claim(s) 15,16,26-29,38-44,46-51 and 57-62 is/are rejected.

- 7) ☐ Claim(s) _____ is/are objected to.

- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 18.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

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The following is a quotation of the first paragraph of 35

U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 15, 16, 26-29, 38-44, 48-51 and 57-61 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The non-described subject matter is the claims 15, 29, 51, and 57 limitations wherein the conductive bump comprises both a generally planar first surface and a height-to-width ratio of at least approximately 3 to 1, and all of the range limitations of claims 26-28, 38-40, 42, 48-50 and 59-61. To further clarify the rejection of claims 26-28, 38-40, 48-50 and 59-61, for each claim, the claim language "at least" encompasses an open-ended range, and the original disclosure provides support only for a portion of the range.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Claims 46-51 are rejected under 35 U.S.C. 102(a) as being anticipated by applicant's admitted prior art.

At page 2, line 20 to page 4, line 23, page 12, line 1 to page 13, line 6, page 13, lines 24-25, and page 13, line 28 to page 14, line 1, applicant teaches that the following is admitted prior art:

46. A semiconductor substrate 104 including at least one laterally unconstrained adhesive patch 128 comprised of a viscous adhesive material, the at least one adhesive patch including a first surface adjacent and supported from beneath by said semiconductor substrate and a second smaller, exposed surface opposite said first surface, said second smaller, exposed surface exhibiting a generally planar portion over a substantial portion thereof.

47. The semiconductor substrate of 46, wherein said viscous adhesive material comprises at least one of the group consisting

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of a polyimide, a phenolic resin, a thermoplastic, and a thermosetting plastic.

48. The semiconductor substrate of 46, wherein said at least one adhesive patch comprises at least one lateral edge exhibiting an angle of repose of at least approximately 20 degrees ["18.4 degrees"].

Claims 7, 8, 25, 30 and 31 are allowed.

The following is a statement of reasons for the indication of allowable subject matter: The prior art does not teach the invention of the claims as a whole, including at least one laterally unconstrained adhesive patch comprised of viscous adhesive material so as to exhibit a desired stable shape, wherein at least a substantial portion of the second smaller surface exhibits a generally planar configuration and is smaller than a size of the first surface.

Applicant's amendment and remarks filed 4-01-02 have been fully considered, and those not moot in view of the rejection supra are addressed infra.

In order to support a traversal of the 35 U.S.C. 112, first paragraph rejection of claims 15, 16, 26-29, 38-44, 48-51 and 57-61, applicant cites specific portions of the disclosure. However, Applicant's traversal is respectfully deemed to be unpersuasive because the cited disclosure does not provide

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support for the embodiments wherein the conductive material comprises both a generally planar first surface and a height-to-width ratio of at least approximately 3 to 1, and the range limitations of claims 26-28, 38-40, 48-50 and 59-61. Instead, the cited disclosure merely provides teachings of separate embodiments wherein the material comprises a generally planar first surface, and wherein the material comprises a height-to-width ratio of at least approximately 3 to 1. Moreover, the cited disclosure at page 16, lines 21-23 directly teaches away from an embodiment wherein the conductive material comprises both a generally planar first surface and a height-to-width ratio of at least approximately 3 to 1 because it teaches that the shape of the material illustrated in Figure 22, hence the non-planar first surface, is maintained.

The prior art made of record and not applied to the rejection is considered pertinent to applicant's disclosure. It is cited primarily to show inventions similar to the instant invention.

Any telephone inquiry of a general nature or relating to the status (MPEP 203.08) of this application or proceeding should be directed to Group 2800 Customer Service whose telephone number is 703-306-3329.

Any telephone inquiry concerning this communication or earlier communications from the examiner should be directed to David E. Graybill at (703) 308-2947. Regular office hours: Monday through Friday, 8:30 a.m. to 6:00 p.m.

The fax phone number for group 2800 is 703/308-7722.

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David E. Graybill
Primary Examiner
Art Unit 2827

D.G.
26-Jun-02